

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-54. (Canceled)

55. (New) A method, comprising:

(a) providing first and second sets of resources to service work items, the first and second sets of resources each comprising a plurality of members;

(b) monitoring, by a processor, a plurality of wait times of selected enqueued work items, an occupancy of a selected queue, a number of available members of the first set of resources to service enqueued work items, the types of enqueued contacts, the priorities of enqueued contacts, and anticipated workload levels;

(c) determining, by a processor and based on the results of the monitoring step, that a first enqueued work item, but not a second enqueued work item, must be put up for bid to meet a predetermined business policy, objective and/or goal for a type of contact corresponding to the first and selected enqueued work items;

(d) determining, by a processor, the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item;

(e) requesting, by a processor, first and second members of the second set of resources to submit a bid to service the first, but not the second, work item;

(f) receiving, from the first and second members first and second bids, respectively, to service the first work item;

(g) comparing, by a processor, the first and second bids;

(h) selecting, by a processor and based on the comparing step (g), the first bid; and

(i) assigning, by a processor, the first work item to the first member for servicing.

56. (New) The method of claim 55, wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of resources comprises a plurality of resources external to the contact center, wherein the work item is a contact from a customer, and wherein the first work item is in a queue of multiple work items.

57. (New) The method of claim 55, wherein bids are requested only during a first operational mode in which bidding is performed and not in a second operational mode in which bidding is not performed, the first and second operational modes being temporally discrete from each other.

58. (New) The method of claim 55, wherein the monitoring step (b) and determining step (c) comprise the substeps:

monitoring, by a processor, at least one queue of work items, the at least one queue of work items corresponding to a first set of internal resources for servicing work items in the at least one queue; and

applying, by a processor, the following rules to the results of the monitoring step:

when a predetermined workload level exists in the at least one queue, performing steps (d) through (i); and

when a predetermined workload level does not exist in the at least one queue, not performing steps (d) through (i).

59. (New) The method of claim 58, wherein the predetermined workload level exists when there is a likelihood that a service goal for at least one work item in the at least one queue will not be satisfied in the absence of bidding.

60. (New) The method of claim 59, wherein the predetermined workload level exists when a queue position in the required queue is less than a number of work items ahead of the queue position in the required queue.

61. (New) The method of claim 55, further comprising:

determining a number and identities of work items to be presented for bidding to the set of resources.

62. (New) The method of claim 55, wherein the selecting step (h) comprises:

comparing the received bids with a maximum acceptable bid.

63. (New) The method of claim 55, wherein the selecting step (h) comprises:

determining, for each bidding resource in the second set of resources, a composite value reflecting a plurality of a work item value, a resource value and a bid; and

comparing the determined composite values to select a resource from the second set of resources to service the first work item.

64. (New) The method of claim 55, further comprising after the receiving step (f):

determining whether or not a workload level for the contact center requires the first work item that is the subject of the received bids to be serviced by a resource in the second set of resources.

65. (Original) The method of claim 55, further comprising after the receiving step (f): displaying at least one of the first and second bid and/or information associated with the at least one of the first and second bids to at least some resources in the second set of resources; and

receiving, from the at least some resources, additional bids after the displaying step.

66. (New) The method of claim 65, wherein at least some of the resources are human agents, wherein the members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein steps (d)-(h) are performed when a different set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals, the different set of resources being employees of the contact center and subscribers of the enterprise network.

67. (New) The method of claim 55, wherein the bid is at least one of a monetary service fee, a service time, an opportunity cost to the contact center for servicing the work item, and an overhead cost to the contact center for servicing the work item.

68. (New) The method of claim 55, wherein a plurality of work items are put out for bid and further comprising:

dynamically varying a bidding time for each of the plurality of work items.

69. (New) The method of claim 55, wherein at least one of steps (c) and (d) comprise: determining a required queue position for each work item in a selected queue, wherein the required queue position indicates that a service-time goal of the respective work item<sub>i</sub> is met only when the respective work item<sub>i</sub> is serviced by a one of the next “N<sub>i</sub>” resources in the first set of resources to become available to service work items in the selected queue;

generating a representation of a queue, the representation reflecting the required queue positions for the work items in the selected queue; and

for each queue position " $N_i$ " in the queue representation, summing the work items in queue positions 1 to  $N_i$ ; and

for each queue position " $N_i$ ", applying the following rules:

when the sum is greater than  $N_p$ , performing steps (e) – (h), and

when the sum is not greater than  $N_p$ , not performing steps (e) – (h).

70. (New) The method of claim 69, wherein a number by which a sum exceeds  $N_i$  is a number of work items to be put out for bid and an initial queue position  $i$  in the representation of a queue at where the sum is greater than  $N_p$  is used to determine a time available for the bidding process to be completed.

71. (New) The method of claim 55, wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items.

72. (New) The method of claim 55, wherein steps (e) and (f) comprise:

publishing on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, providing the bidder with an indication whether or not his bid is less than, greater than or equal to an acceptable bid threshold.

73. (New) The method of claim 72, wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced.

74. (New) The method of claim 55, wherein step (g) comprises the sub-steps:

(G1) calculating, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and

(G2) comparing the first and second composite values.

75. (New) The method of claim 55, wherein steps (g) and (h) are performed by mapping a resource value of the first member against a resource value range, each resource value range having a different acceptable bid threshold.

76. (New) The method of claim 55, wherein steps (g) and (h) are performed by mapping a work item value of the first work item against a work item value range, each work item value range having a different acceptable bid threshold.

77. (New) The method of claim 55, wherein steps (e) and (f) comprise:  
publishing on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, providing the bidder with an indication whether or not his bid is less than, greater than or equal to a bid received from another bidder.

78. (New) A contact center, comprising:  
first and second sets of resources to service work items, the first and second sets of resources each comprising a plurality of members;

a processor operable to:  
monitor a plurality of wait times of selected enqueued work items, an occupancy of a selected queue, a number of available members of the first set of resources to service enqueued work items, the types of enqueued contacts, the priorities of enqueued contacts, and anticipated workload levels;

determine, based on the results of the monitoring operation, that a first enqueued work item, but not a second enqueued work item, must be put up for bid to meet a predetermined business policy, objective and/or goal for a type of contact corresponding to the first and selected enqueued work items;

configure the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item;

request first and second members of the second set of resources to submit a bid to service the first, but not the second, work item;

receive, from the first and second members first and second bids, respectively, to service the first work item;

compare the first and second bids;

select, based on the comparing operation, the first bid; and

assign the first work item to the first member for servicing.

79. (New) The contact center of claim 78, wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of resources comprises a plurality of resources external to the contact center, wherein the work item is a contact from a customer, and wherein the first work item is in a queue of multiple work items.

80. (New) The contact center of claim 78, wherein at least some of the resources are human agents, wherein the members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein the configure, request, receive, compare, and select operations are performed when a different set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals, the different set of resources being employees of the contact center and subscribers of the enterprise network.

81. (New) The contact center of claim 78, wherein at least one of the compare and select operations comprise the sub-operations:

determine a required queue position for each work item in a selected queue, wherein the required queue position indicates that a service-time goal of the respective work item<sub>i</sub> is met only when the respective work item<sub>i</sub> is serviced by a one of the next “N<sub>i</sub>” resources in the first set of resources to become available to service work items in the selected queue;

generate a representation of a queue, the representation reflecting the required queue positions for the work items in the selected queue; and

for each queue position “N<sub>i</sub>” in the queue representation, sum the work items in queue positions 1 to N<sub>i</sub>; and

for each queue position “N<sub>i</sub>”, apply the following rules:

when the sum is greater than  $N_p$ , perform the configure, request, receive, compare, and select operations, and

when the sum is not greater than  $N_i$ , not performing configure, request, receive, compare, and select operations.

82. (New) The contact center of claim 81, wherein a number by which a sum exceeds  $N_i$  is a number of work items to be put out for bid and an initial queue position  $i$  in the representation of a queue at where the sum is greater than  $N_p$  is used to determine a time available for the bidding process to be completed.

83. (New) The contact center of claim 78, wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items.

84. (New) The contact center of claim 78, wherein the compare and select operations comprise:

publish on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, provide the bidder with an indication whether or not his bid is less than, greater than or equal to an acceptable bid threshold.

85. (New) The contact center of claim 84, wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced.

86. (New) The contact center of claim 78, wherein the compare operation comprises the sub-operations:

calculate, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and

compare the first and second composite values.

87. (New) The contact center of claim 78, wherein the compare and select operations are performed by mapping a resource value of the first member against a resource value range, each resource value range having a different acceptable bid threshold.

88. (New) The contact center of claim 78, wherein the compare and select operations are performed by mapping a work item value of the first work item against a work item value range, each work item value range having a different acceptable bid threshold.

89. (New) The contact center of claim 78, wherein the compare and select operations comprise the sub-operations:

publish on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, provide the bidder with an indication whether or not his bid is less than, greater than or equal to a bid received from another bidder.

90. (New) A computer program product comprising processor executable instructions encoded on a computer readable medium, which, when executed by the processor, causes the processor to perform the following operations:

monitor a plurality of wait times of selected enqueued work items, an occupancy of a selected queue, a number of available members of the first set of resources to service enqueued work items, the types of enqueued contacts, the priorities of enqueued contacts, and anticipated workload levels, wherein first and second sets of resources service work items, the first and second sets of resources each comprising a plurality of members;

determine, based on the results of the monitoring operation, that a first enqueued work item, but not a second enqueued work item, must be put up for bid to meet a predetermined business policy, objective and/or goal for a type of contact corresponding to the first and selected enqueued work items;

configure the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item;

request first and second members of the second set of resources to submit a bid to service the first, but not the second, work item;



receive, from the first and second members first and second bids, respectively, to service the first work item;

compare the first and second bids;

select, based on the comparing operation, the first bid; and

assign the first work item to the first member for servicing.

91. (New) The product of claim 90, wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of resources comprises a plurality of resources external to the contact center, wherein the work item is a contact from a customer, and wherein the first work item is in a queue of multiple work items.

92. (New) The product of claim 90, wherein at least some of the resources are human agents, wherein the members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein the configure, request, receive, compare, and select operations are performed when a different set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals, the different set of resources being employees of the contact center and subscribers of the enterprise network.

93. (New) The product of claim 90, wherein at least one of the compare and select operations comprise the sub-operations:

determine a required queue position for each work item in a selected queue, wherein the required queue position indicates that a service-time goal of the respective work item<sub>i</sub> is met only when the respective work item<sub>i</sub> is serviced by a one of the next “N<sub>i</sub>” resources in the first set of resources to become available to service work items in the selected queue;

generate a representation of a queue, the representation reflecting the required queue positions for the work items in the selected queue; and

for each queue position “N<sub>i</sub>” in the queue representation, sum the work items in queue positions 1 to N<sub>i</sub>; and

for each queue position “N<sub>i</sub>”, apply the following rules:

when the sum is greater than N<sub>p</sub>, perform the configure, request, receive, compare, and select operations, and

when the sum is not greater than  $N_j$ , not performing configure, request, receive, compare, and select operations.

94. (New) The product of claim 91, wherein a number by which a sum exceeds  $N_i$  is a number of work items to be put out for bid and an initial queue position  $i$  in the representation of a queue at where the sum is greater than  $N_j$ , is used to determine a time available for the bidding process to be completed.

95. (New) The product of claim 90, wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items.

96. (New) The product of claim 90, wherein the compare and select operations comprise:

publish on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, provide the bidder with an indication whether or not his bid is less than, greater than or equal to an acceptable bid threshold.

97. (New) The product of claim 96, wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced.

98. (New) The product of claim 90, wherein the compare operation comprises the sub-operations:

calculate, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and

compare the first and second composite values.

99. (New) The product of claim 90, wherein the compare and select operations are performed by mapping a resource value of the first member against a resource value range, each resource value range having a different acceptable bid threshold.

100. (New) The product of claim 90, wherein the compare and select operations are performed by mapping a work item value of the first work item against a work item value range, each work item value range having a different acceptable bid threshold.

101. (New) The product of claim 90, wherein the compare and select operations comprise the sub-operations:

publish on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, provide the bidder with an indication whether or not his bid is less than, greater than or equal to a bid received from another bidder.